OPERATING SUMMARY

FENELON FALLS

water treatment plant

1967

ONTARIO WATER RESOURCES COMMISSION

Division of Plant Operations

ONTARIO WATER RESOURCES COMMISSION
801 BAY STREET, TORONTO 5
OFFICE OF THE GENERAL MANAGER

Members of the Fenelon Falls Local Advisory Committee,
Village of Fenelon Falls.

Gentlemen:

We are happy to present you with the 1967 Operating Summary for the Fenelon Falls Water Treatment Plant, OWRC Project No. 6-0060-57.

Your co-operation with our staff throughout the year has been appreciated.

Yours very truly,

D. S. Caverly,
General Manager.

ONTARIO WATER RESOURCES COMMISSION
801 BAY STREET
TORONTO 5

J. A. VANCE, LL.D.
CHAIRMAN

J. H. H. ROOT, M.P.P.
VICE-CHAIRMAN

TELEPHONE 365-

D. S. CAVERLY
GENERAL MANAGER

W. S. MacDONNELL
COMMISSION SECRETARY

General Manager,
Ontario Water Resources Commission.

Dear Sir:

I am pleased to submit to you the 1967 Operating Summary for the Fenelon Falls Water Treatment Plant, OWRC Project No. 6-0060-57.

The summary reviews progress during the year, outlines operating problems encountered and summarizes in graphs, charts and tables all significant flow and cost data.

Yours very truly,

D. A. McTavish, P. Eng.,
Director,
Division of Plant Operations.

FOREWORD

● This operating summary has been prepared in order to acquaint readers with the management of the project during 1967. The efficiency of the plant's operation is reflected in a general review. Significant financial details are recorded, and technical performance is illustrated by graphs and charts.

The summary should answer two salient questions. Are the project's facilities adequate at this time? And can the project meet future requirements?

The Regional Operations Engineer is primarily responsible for the preparation of the report, and will be pleased to answer any questions regarding it.

Most of the material for the graphs and charts was compiled by the statistics section of the Division of Plant Operations, with the final versions of the graphs being drawn by the draughting section of the Division of Sanitary Engineering. Cost data were provided by the Division of Finance.

It will be evident from the report that all of these groups co-operated with substantial success.

CONTENTS

FENELON FALLS
water treatment plant

operated for

THE VILLAGE OF FENELON FALLS

by the

ONTARIO WATER RESOURCES COMMISSION

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Assistant Director: C. W. Perry
Regional Supervisor: P. J. Osmond
Operations Engineer: R. Kauppinen

801 Bay Street Toronto 7

'67 REVIEW

Total operating costs increased by approximately 4%, from $7,241.30 in 1966 to $7,527.22 in 1967. The cost per thousand gallons of raw water treated, which does not include power costs, increased slightly from $0.16 in 1966 to $0.17 in 1967.

The total flow for 1967 decreased slightly from 1966. A total of 44.77 million gallons was treated this year compared to 45.36 million gallons in 1966. This represents a 1% decrease from 1966.

The average daily flow for the year was 123,000 gallons per day compared to 124,000 gallons per day in 1966. It should be noted that during August, 1967, an average of 182,000 gallons per day was pumped to the system. During the peak month of 1966, 286,000 gallons per day were pumped. This represents a decrease of 36 percent. The lowest flow occurred in April, when 85,000 gallons per day were pumped to the system.

A total of 1086 pounds of chlorine was used compared to 719 pounds in 1966. This was equivalent to a dosage rate of 2.28 ppm, an increase of 49 percent from the 1966 dosage rate of 1.59 ppm. A bacteriological sampling program was carried out during the year which indicated that the water was satisfactory for consumption.

PROJECT COSTS

NET CAPITAL COST (Estimated)	$303,660.14
DEDUCT - Payments from Municipalities	2,531.00
Long Term Debt to OWRC	$301,129.14
Debt Retirement Balance at Credit (Sinking Fund) December 31, 1967	$ 35,099.72
Debt Retirement	$ 6,077.00
Reserve	1,766.56
Interest Charged	16,981.70
Net Operating	7,527.22
TOTAL	$ 32,352.48

RESERVE ACCOUNT

Balance at January 1, 1967	$ 9,136.25
Deposited by Municipality	1,766.56
Interest Earned	557.07
	$ 11,459.88
Less Expenditures	-
Balance at December 31, 1967	$ 11,459.88

Fenelon Falls

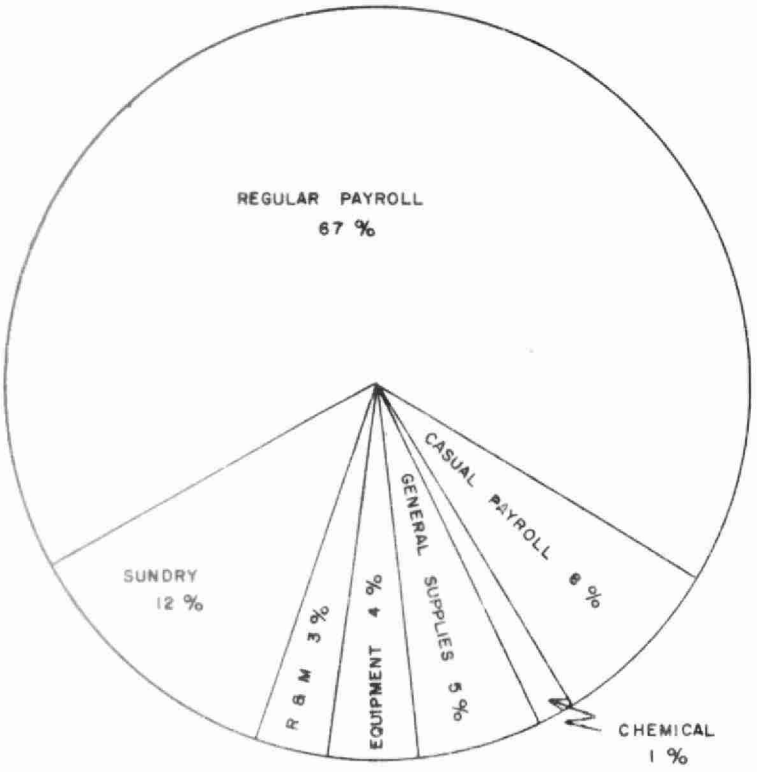
MONTHLY OPERATING COSTS

MONTH	TOTAL EXPENDITURE	PAYROLL	CASUAL PAYROLL	CHEMICAL	GENERAL SUPPLIES	EQUIPMENT	REPAIRS & MAINTENANCE	SUNDRY
JAN	429.13	357.38	65.75		4.00			2.00
FEB	405.77	345.08	10.00		23.38			27.31
MARCH	734.69	568.63	72.34		58.61			35.11
APRIL	655.30	361.40			2.08	77.43		214.39
MAY	687.53	405.76	6.25		48.81	138.78	68.18	19.75
JUNE	525.93	361.40	105.41		37.69			21.43
JULY	714.77	373.62	71.06		60.13	13.34	92.06	104.56
AUG	643.79	444.88	46.55	106.13	21.65			24.58
SEPT	793.63	564.51	90.00		17.55	62.95	30.06	28.56
OCT	515.90	377.70	94.35		9.75		31.50	2.00
NOV	741.85	396.14	5.00		32.74			307.97
DEC	678.93	476.76	5.00		89.78			107.39
TOTAL	7527.22	5033.26	572.31	106.13	406.17	292.50	221.80	895.05

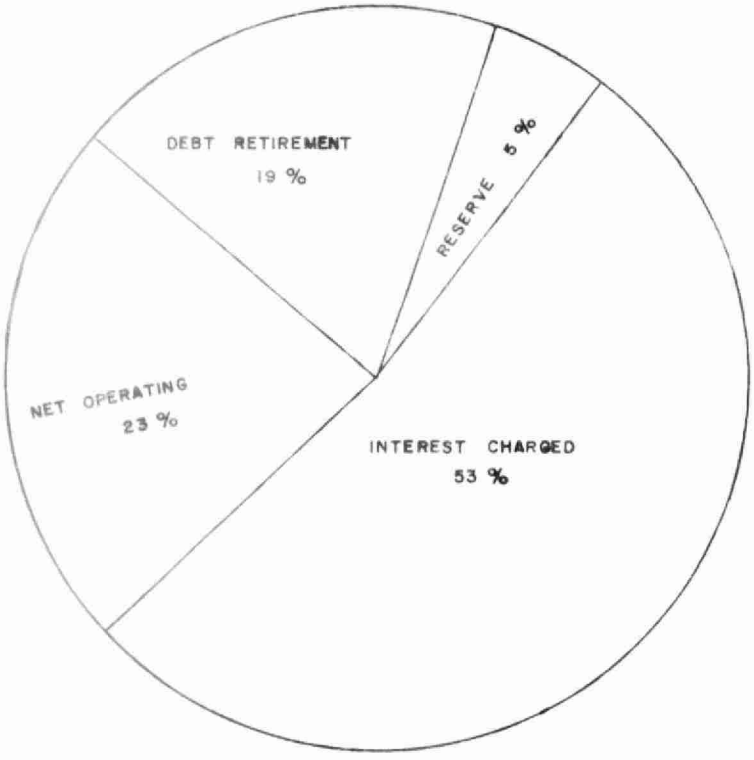
YEARLY OPERATING COSTS

YEAR	M.G. TREATED	TOTAL COST	COST PER THOUSAND GALLONS
1964	27.681	$6256.23	$0.22
1965	40.728	$7884.37	$0.19
1966	45.360	$7241.30	$0.16
1967	44.771	$7527.22	$0.17

1967 OPERATING COSTS



TOTAL ANNUAL COST

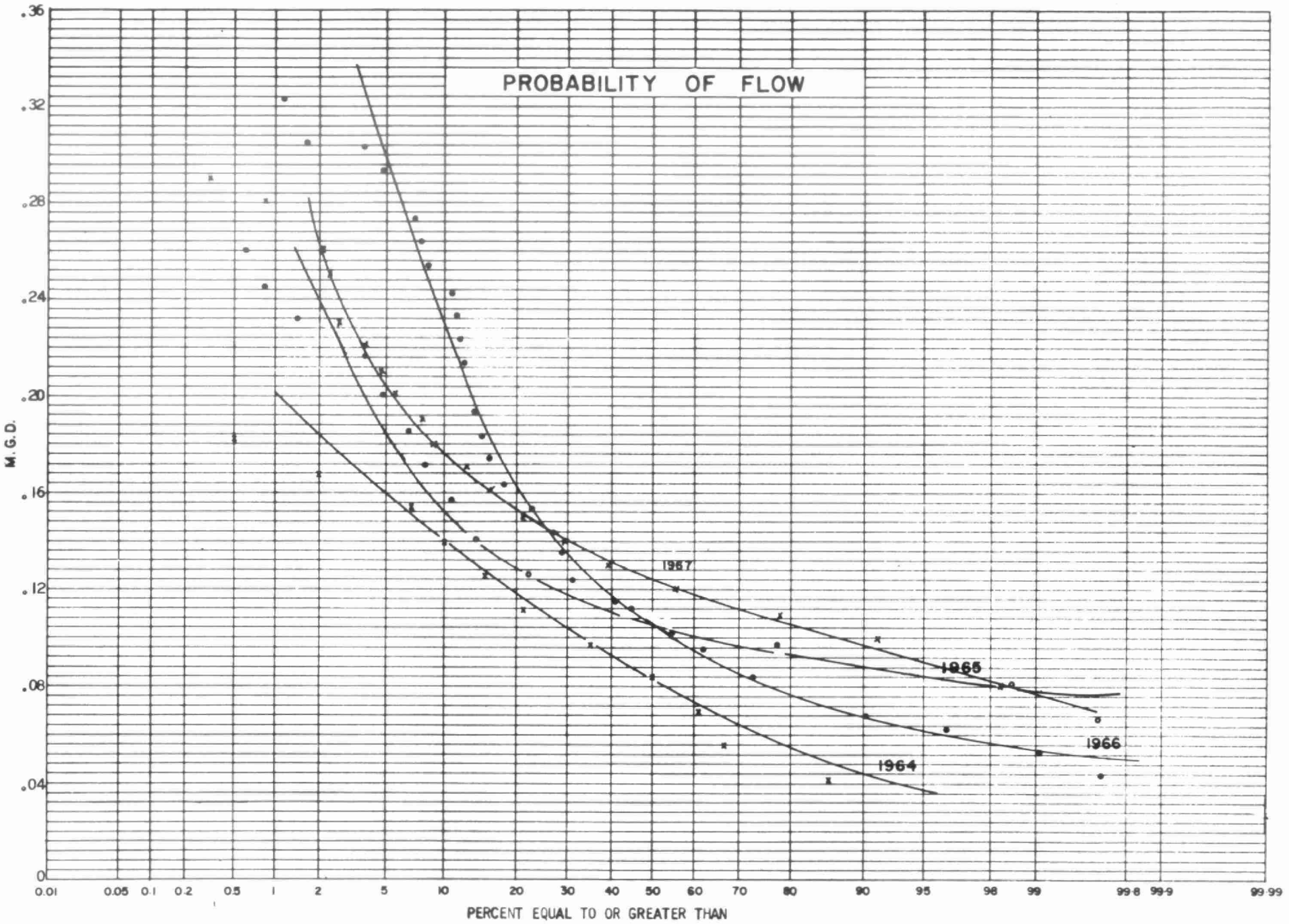


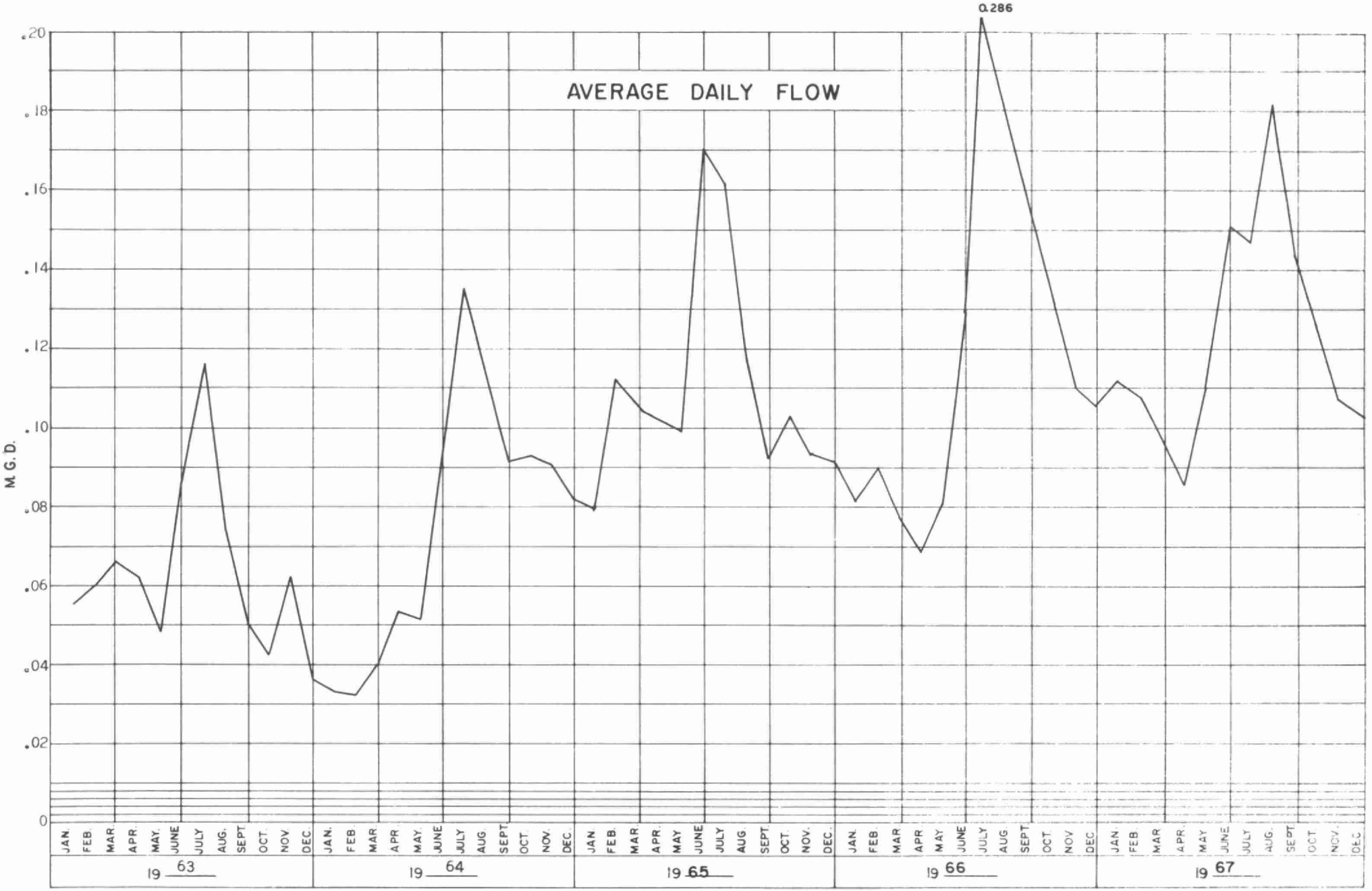
Process Data

The original plant design capacity was 130,000 gallons per day. After the pressure-sensing telemetering system was installed in 1965, automatic sequencing of the pump increased the plant capacity to approximately 180,000 gallons per day.

From the probability of flow graph, it can be seen that the design flow of 180,000 gallons per day was exceeded approximately 9 percent of the time in 1967. This represents a decrease from the 1966 figure when the design flow was exceeded 17 percent of the time. The main reason for this decrease was the wetter weather experienced during the summer of 1967.

From the graph showing average daily flow, it can be seen that the summer flows in 1967 were less than the summer flows of 1966. However, the plant filtering capacity was exceeded periodically during periods of peak summer water demands.


PROBABILITY OF FLOW
M.G.D.
.36
.32
.28
.24
.20
.16
.12
.08
.04
0
0.01
0.05
0.1
0.2
0.5
1
2
5
10
20
30
40
50
60
70
80
90
95
98
99
99.8
99.9
99.99
PERCENT EQUAL TO OR GREATER THAN
1967
1965
1966
1964


AVERAGE DAILY FLOW
0.286
M.G.D.
.20
.18
.16
.14
.12
.10
.08
.06
.04
.02
0
JAN. FEB. MAR APR. MAY JUNE JULY AUG. SEPT OCT. NOV. DEC.
19 63
19 64
19 65
19 66
19 67

CHLORINATION

MONTH	PLANT FLOW (MG)	POUNDS CHLORINE	DOSAGE RATE (PPM)
JANUARY	3.470	31.0	.89
FEBRUARY	3.036	25.5	.84
MARCH	3.001	35.0	1.17
APRIL	2.563	44.0	1.72
MAY	3.395	65.0	1.91
JUNE	4.519	129.0	2.85
JULY	4.555	174.0	3.82
AUGUST	5.633	179.0	3.17
SEPTEMBER	4.321	112.0	2.59
OCTOBER	3.895	120.0	3.08
NOVEMBER	3.198	100.0	3.12
DECEMBER	3.185	71.0	2.23
TOTAL	44.771	1085.5	-
AVERAGE	3.730	91	2.28

COMMENTS

A chlorine residual of at least 0.5 ppm was maintained in the treated water. To achieve this residual an average dosage rate of 2.28 ppm was necessary. This dosage rate represents a 49 percent increase in the chlorine dosage of 1.59 ppm in 1966. In 1967, an error in the chlorine test was discovered. With the correction of this error, it was found that a greater dosage rate was required to maintain the proper chlorine residual.

Bacteriological samples taken at the plant and at various locations in the distribution system indicated that adequate disinfection was achieved in 1967.

CONCLUSIONS

The plant filtering capacity was exceeded periodically during periods of peak summer water demand.

The plant has operated well under the capable superivision of the Chief Operator and has produced a good-quality and economical water for the Village.

RECOMMENDATIONS

A study of the present and future water requirements of the Village is proposed for 1968. Particular attention should be given to the provision of storage capacity on the system in this report.

As an interim measure, before the recommendations of a study are implemented, some form of water usage restrictions should be imposed during dry periods of the summer season.


ONTARIO WATER RESOURCES COMMISSION